



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/569,223	04/28/2009	Mark L. Stolowitz	602572 US	9415
33642 7590 07/14/2011 STOEL RIVES LLP - SLC 201 SOUTH MAIN STREET, SUITE 1100 ONE UTAH CENTER SALT LAKE CITY, UT 84111				
EXAMINER MASKELL, MICHAEL P				
ART UNIT 2881		PAPER NUMBER		
MAIL DATE 07/14/2011		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/569,223

Applicant(s)

STOLOWITZ, MARK L.

Examiner

MICHAEL MASKELL

Art Unit

2881

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-942)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 10-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 10 is dependent upon itself, rendering it unclear what limitations are imported into the claim. Claims 11-23 import this indefiniteness by dependence.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 19 is rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility. Claim 19 requires the microwell to comprise a zone which is simultaneously hydrophobic and adsorptive with respect to analytes. Hydrophobicity and adsorbitivity are contradictory properties - a substance cannot be simultaneously repelled from a zone and adsorbed by the zone.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson, et al (U.S. Patent Application Publication 2002/0142481 A1) in view of Shenderov (U.S. Patent 6,565,727 B1).

6. **Regarding claims 1 and 2**, Andersson discloses a method for presenting liquid samples for mass spectrometry comprising:

obtaining a sample presentation device (Fig. 1) configured to enable fluid communication from a microwell (1) to at least one intermediate site (3) and then to a terminal site (2), delivering a volume of a liquid sample containing analytes to the microwell (paragraph 0097), and directing the liquid sample from the microwell to the terminal site via the intermediate site (paragraphs 0097-0098).

7. Andersson differs from the claimed invention in that centrifugal force is primarily used to transport the liquid sample between the sites, rather than electro-wettability

(paragraph 0098). Andersson does suggest, however, that methods other than centrifugal force, such as electric transport methods, may be used instead (paragraph 0070).

8. Shenderov discloses a method of transporting liquid samples between intermediate electro-wettable sites to a terminal electro-wettable site by altering the wettability of the intermediate electro-wettable site and the terminal electro-wettable site in order to deposit the analytes on the terminal electro-wettable site (abstract; Fig. 2); wherein the wettability of each electro-wettable site is altered by selective electrical actuation of each electro-wettable site (column 3, lines 5-10). Shenderov also teaches that the use of electro-wettability is superior to other electrical methods of fluid transport because it provides superior reproducibility (column 1, line 20-column 3, line 10).

9. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Shenderov's electro-wetting method instead of centrifugal force to transport sample liquid in Andersson's method because Andersson suggests that electric methods may be substituted and Shenderov teaches an electric method (electro-wetting) that is superior to other methods.

10. **Regarding claims 3-6**, Andersson teaches wherein the volume of the liquid sample is sequentially reduced via evaporation at each site, both under ambient conditions (paragraph 0121: the evaporation of solvents) and by heating the liquid sample (paragraph 0121: irradiating the liquid to desorb/ionize analytes) as the liquid sample is directed from the microwell to the terminal site.

11. **Regarding claim 7**, the use of Shenderov's electro-wetting method enables precise control over the position of analyte droplets (column 3, lines 5-10; column 5, lines 15-50); therefore, in the obvious combination described in re claim 1 above, the terminal electro-wettable site would be adapted to confine the deposition of analytes to within a predetermined area.

12. **Claim 9** is drawn to the device for performing the method of claim 1, and the same rejection is applicable *mutatis mutandis*.

13. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson in view of Shenderov as applied to claim 1 above, and further in view of Maier, et al (U.S. Patent 7,052,914).

14. **Regarding claim 8**, Andersson in view of Shenderov teaches the method of claim 1, but fails to teach a plurality of sample presentation sites wherein the liquid sample is delivered to each sample presentation site via liquid handling robots.

15. Maier teaches providing a plurality of sample presentation sites similar to Andersson's (the plurality of capillary systems for presentation of samples to a mass spectrometer discussed in column 2, lines 53-67) and delivering the liquid sample to each sample presentation site via liquid handling robots (column 2, lines 53-67).

16. It would have been obvious to one of ordinary skill in the art at the time the invention was made to duplicate Andersson's sample presentation sites since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art, *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8, and it would have been obvious to use Maier's liquid handling robots to supply the sample to each

sample presentation site because doing so would allow automated analysis of a large number of samples.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL MASKELL whose telephone number is (571)270-3210. The examiner can normally be reached on Monday-Friday 8AM-5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 571/272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/569,223
Art Unit: 2881

Page 7

/Michael Maskell/
Primary Examiner, Art Unit 2881
12 July 2011